

REMARKS: General

By the above amendment, this applicant has amended the drawings in compliance to 37 CFR 1.12(d) and replacement sheets, all renumbering is complete, and appropriate changes have been made to the brief description of the several views of the drawings for consistency.

The applicant has corrected all occasions where the letters "o" and "e" were unintentionally omitted by the applicant's word processor. Also, the legal term "said" which occurred numerous times in the specification is corrected. The applicant has enclosed a "substitute specification" that includes "no new matter" for your files and future actions. Please see "Clear Version", of specification, certified by this applicant's signature on page 1.

The applicant incorrectly numbered the claims, therefore, claims 1-4 have been canceled and a claim 5 describing the applicant's original intent, a new use created by combination of two or more old features as documented in office action prior art references to be relied upon, whereby "A method of increasing storage retention of pencil shavings debris in a hand held mechanical pencil sharpener by combining a plastic recyclable plastic beverage closure with a pencil sharpener that threads on (conventional plastic beverage containers (soda bottles), that is novel and unobvious under Section 102.

Further assistance from your office, would be very much appreciated in order to assure that my claim for the combination bottle cap pencil sharpener is correctly written.

The Objection to the Specification and the Claims Rejection under 37 CFR 1.126 requiring the original numbering of the claims to be preserved through the prosecution” (Claims Objection Number 4) This Applicant, respectfully requests reconsideration and withdrawal of this objection since claims 1-4 have been canceled and claim 5 is new and written in good faith to describe the applicant’s , original intent above under remarks and documented below claim 5 (new):

Claim 5 (New) A method of increasing storage retention of pencil shavings debris in a hand held mechanical pencil sharpener comprising:

(a.) providing a pencil sharpener that incorporates a hollow cylinder, comprising a central hole, and said pencil sharpener located inside said hollow cylinder, and in

(b.) communication with said central hole, and the radial wall of said hollow cylinder incorporates threads that form a tight seal unto a conventional plastic beverage container,

(c.) twisting said hollow cylinder to threadably attach onto said conventional plastic beverage container to form said tight seal around neck of said plastic beverage container

whereby, said pencil sharpener hand threads unto said conventional plastic beverage container increasing storage capacity for said pencil shavings debris that fall by gravity into said conventional plastic beverage container.

This Applicant, respectfully requests reconsideration and withdrawal of the above referenced objection for the following reasons: The new claim 5, documented above on page 3, of this document, and directly above on page 6, represents the proper form, and that the claim defines patentability over the prior art as per Office Action recommendations and examples of October 17, 2005. The applicant included all the wording to reflect that “when the pieces of the sharpener are combined from the pencil sharpener and that “the pencil sharpener incorporates a hollow cylinder comprising a central hole, a pencil sharpener located inside the hollow cylinder and in communication with the central hole, and radial wall of the hollow cylinder incorporates threads.” Please see the new claim, claim 5 above as is now written to define patentability over the prior art.

This Applicant, respectfully requests reconsideration and withdrawal of this objection of the following:

The Objection to the Specification and the Claims Rejection under the second paragraph of 35 U.S.C. 112 was rejected as failing to define the invention in the manner required by 35 U.S.C 112, second paragraph, stating that, "The specification shall conclude with one or more claims Application particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention." And that the claim(s) are replete with indefinite and functional or operational language. The structure that goes to make up the device must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a complete operative device." The Objection to the Specification and the Claims Rejection under the second paragraph of 35 U.S.C. 112 was rejected as: "The problem the sharpener combination solves belongs in the specification and is not proper for the claims ". Please note the applicant's specifications document and early intent to show the problems the invention solves:

This Applicant, respectfully requests reconsideration and withdrawal of this objection above. (Claims Objection Number 6) since: claim 5 is new and rewritten not to mention the problem the sharpener combination solves. Also, please note the following quotations from the applicant's clear version attached as replacement of old specification that documents and lists the problems this applicant's the pencil sharpener bottle cap combination solves:

1 Field of Invention-page 1 of specification, "a pencil sharpener bottle cap combination, for use in elementary school classrooms that fits onto any conventional plastic beverage container to facilitate a new, useful and readily available pencil shaving receptacle, that is easily manipulated by small hands, with large capacity for storage of pencil shavings, that both sharpens wood encased pencils and stores the pencil shavings, that is inexpensive to manufacture recyclable and easily disposed of properly.

(2.) Description of Prior Art – paragraph 1, "This normal sharpening process accumulates shavings and dust (collectively "shaving"), which are typically trapped within the housing, (housing may or may not have a shavings receptacle), and periodically discarded by the user when full. Paragraph 4, " In a cup or drawer arrangement, spillage of the shavings is likely when the cup or drawer is removed due to over filling of the cup or drawer with shavings" In a faceplate arrangements, the shavings are particularly difficult to control and the spillage

frequently occur with any amount of shavings. Paragraph 5, "Typically, upon disengagement of the shavings receptacle, or during storage, the cup, or drawer (collectively "receptacle") is lost and the user, unable to locate the original receptacle, resorts to other makeshift means of shavings retention such as a small cardboard box particularly in motorized models or the use of one's own cupped hands to secure the shaving as they drop down or the user simply stands over a nearby wastebasket and allow debris and pencil dust (shavings) to freely fall into a waste container where ultimately, much of the pencil shavings mess the container and fall unto the floor. Paragraph 5, page 2, "... different pencil sharpener configurations ...user's unfamiliarity...contributes to ...spillage. Spilled shavings ... cause stains that are difficult to clean, and therefore, require continual clean up as is so typical in elementary school classroom situations.

(3.) Brief Summary of Invention: Paragraph 8, "...a necessary component of elementary school classroom...Pencil supply and maintenance is a daily concern for teachers as major learning time is lost sharpening them, cleaning up debris..." Paragraph 9, "Therefore...Invention provides a new "screw-threaded cap" configuration as an Integral part...creating a new and useful...receptacle from any conventional plastic beverage container...Increased storage...easily manipulated by small hands...recyclable, environmentally friendly..." Paragraph 9, "not present in prior art pencil sharpeners, rendering this configuration particularly useful in elementary school classrooms where large volumes of wood encased pencils are sharpened daily. Paragraph 9, page 3, "the user can easily observe capacity due to the transparent nature of the plastic...enabling accurate visual determination of ...accumulation...reducing the possibility of spillage..." Paragraph 10, page 3, "particularly useful ...in elementary school classrooms...common on practice for storage of various school supplies...accepted means for storage of "desk-side" drinking water...common to students...available in abundance..."

CLAIM Rejections – 35 USC 102 Claim number

4 of page 4, 5 subsections 7, 8 were objected to under 35 USC 102 (b.) on the basis that” the invention was patented or described in a printed publication and “anticipated by Kent (3,083,691).” The current office action states that” Kent discloses the same invention including an office product capable of threadably fitting on a plastic beverage container that sharpens pencils” (Fig.1).The applicant respectfully requests reconsideration of this rejection using Kent (3,083,691) as having “anticipated” the applicant’s present invention for the following reasons:

1. Unexpected Results: The results achieved by this applicant’s invention are unsuggested by Kent in (3,083,691). Kent’s invention “relates to power operated pencil sharpener in general and more particularly to a construction thereof which enables the blade to “readily be changed” and the applicant’s invention was not anticipated at that time since the technology needed to make (Polyethylene Terephthalate) P.E.T recyclable plastic bottles had not been developed or considered a possible problem to be solved. Only plastic beverage containers made of this material (Polyethylene Terephthalate P.E.T) can be used in the applicant’s invention which was not yet discovered at the time of Kent’s patent. The plastic containers described in this applicant’s invention can only be made of Polyethylene Terephthalate and did not become available until after 1972.

The first Plastic containers were first introduced by Coca Cola Company and the technology was just not there until after 1972 when Polyethylene Terephthalate P.E.T plastic was first used. Further, the Applicant’s invention refers only to conventional plastic soda (carbonated beverage containers) with screw threaded necks that are recyclable and not available until after the recycling craze or need for recyclable plastic products developed years after Kent’s blade changer. So the first recyclable plastic bottle (P.E.T.) was introduced years later. The applicant’s invention would not have been possible, or considered until the invention of this type of plastic and the popularity of it nearly all elementary school class rooms.

Further, the water bottled craze, brought the plastic (P.E.T.) Polyethylene Terephthalate plastic recyclable bottle to the elementary school class rooms, and this applicant's invention, using these plastic recycled bottles in the class room, would not have been thought of at the time of Kent or any of the other of the 12 references that were relied upon in recent office action as they were not a consideration of anyone in the prior art and could not have been possible in 1962 at the time Kent patented the new blade changing device. The applicant's invention requires the combination of two well known products, the hand held mechanical pencil sharpener and a bottle cap closure to fit on recyclable plastic beverage containers. A summary of relied upon references will confirm applicant's invention as patentable:

No patents cited as those to be relied upon spoke to an increased storage of pencil shavings. Please see summary of excellent relied on research where no reference anticipates a patent to improve storage capacity of pencil shavings. There could have been no one in the art to suggest it. The technology was not anticipated until sometime after 1972 and the practice was required as elementary school curriculum in earth science as it is today. No one was thinking about that it as unpatriotic, necessary or being a "litterbug" or "polluter" at the time of Kent, because there was no such things as P.E.T. made carbonated plastic bottle containers.

This applicant's invention relates to the use of recycled plastic soda bottles that can be used as a receptacle for pencil shavings debris increasing savings capacity. Plastic soda bottles currently used in elementary school class rooms are capable of use with this applicant's invention, but never before 1972 or thereafter. The use of (P.E.T) Polyethylene Terephthalate Plastic bottles of this type were not used at all until after 1972. (National Soft Drink Association- Coca Cola first used them) The invention is new, unexpected, and unsuggested, and was at least assumed not practical or unworkable in Kent's time.

Up to now those skilled in the art of manufacturing and marketing of carbonated beverages (soda drinks) plastic bottles that could be used over

again (recycled), were not considered at the time of Kent, because there was not yet any technique to do it, nor did the carbonated soft drink industry know of any method to make them, that is, (P.E.T.), Polyethylene Terephthalate plastic.

The question was also whether the public would buy carbonated drinks (soda) in plastic containers. As a result, manufacturers of carbonated beverages had not even tested the public to see if they would buy the product at the time of Kent's blade changing invention, and it was years later that some of the first plastic recyclable bottles were introduced into the market. It took the Coca Cola Bottling Company to test it and the first recyclable plastic soda container (P.E.T.) was used by Coke over 10 years after Kent's blade changing device.

3. Assumed an unsolvable problem in 1961: Kent's invention patent number (3,083,691), was to improve the blade changing mechanism to "enable the blade to readily be changed, and in Kent's previous patent for an electrical pencil sharpener, the previous invention of Kent, solved a problem related to blade changing and battery operated pencil sharpeners, also, with a changeable blade mechanism. Kent's threaded cap closure could not have worked on the applicant's invention, and was also copied from prior art by Kent it could not have been anticipated as a use with plastic soda (carbonated beverage containers) which in 1961, had no meaning to society, as no need existed, and was not a problem anyone thought should be solved. The concept of recycling would not have been considered a problem to have the merit to be solved until a need and the development of Polyethylene Terephthalate plastic (P.E.T) plastic, years later, brought the need for recycling to the public.

4. Unrecognized Problem: The problem this applicant's invention solves, a method of increasing pencil shavings storage, which was not a recognized problem at the time of Kent's electric sharpener blade changing invention, was never recognized by those involved in the prior art before Kent or any

thereafter, until this applicant's invention. In addition, there was not one reference cited in the office action of April 17, 2005 that addressed this need. Therefore, the following summary of references cited that must be relied upon will demonstrate this applicant's position and show that the applicant's new use combination is patentable.

5. Unappreciated Advantage: This applicant carefully read, re-read and reviewed each of the 12 reference used in the office action, and was unable to find anything resembling the applicants invention, or that suggested, anticipated the capability to threadably fit on a plastic bottle for the purpose of increasing pencil shavings storage.

In addition, Kent, Fig. 1 drawing, referred to by the reference referred to as the "same invention" could not have been used, or could even be operational. Please see Kent and the applicants above claim 5 (new) in addition to applicant's replacement specification.

1. Kent's invention relates to "power operated pencil sharpeners", and could not have been related to increased storage capacity for pencil shavings.

2. The "primary object of Kent's invention was to "improve automatic blade changing", not to increase storage capacity for wood pencil shavings using a recyclable plastic bottle.

3. Another object of Kent was to provide a "means to enable the removal the sharpener blade."

4. Still another object of Kent's invention was to have a novel means of "guiding the blade during delivery."

5. Kent's screw threads, used by other prior art, only created a cover that is "securable to a rotatable receptacle" as shown in Kent's original patent number 833,065 and had no connection at all to this present applicant's claim to a means of increasing storage capacity for pencil shavings debris and nowhere, does Kent indicate or suggest this applicant's invention and Kent could not have done so due to the non existence of the technology to do it.

6. Unappreciated advantage: Up to now, those skilled in the art never appreciated the advantages of the invention although they should have. Not one of the references that are to be relied upon below is able to suggest, anticipate, an office product capable of fitting unto a plastic beverage container. The present applicant's new use created by combining conventional Polyethylene Terephthalate P.E.T disposable plastic carbonated (soda) bottles to increase storage of pencil shavings debris was unrecognized by prior art and this applicant presumes this to mean that the applicant's present invention is patentable. The applicant has recognized a problem that was unrecognized by prior art All the relied upon references below demonstrate the above conclusions of patentability:

Please see all 12 references cited by office action below and the problems solved and that they were not related to the applicant's present invention:

- 1. Benczalski:** – US-1780871 A - 1930 (A compact device for sharpening pencils that has a “plurality of cutting knives.”)
- 2. Becker:** US 2525854 A – 1950 –) (Relates to a threaded device for “improvements in dust proof pencil sharpeners
- 3. Fugle:** US 2557646 A --” This invention relates to a” lead sharpener, and more particularly to an implement for sharpening leads of mechanical pencils.”
- 4. Kent:** – US3083691 A1 – 1963 – Relates to “power operated pencil sharpeners...and the improvement was to and only “enables a blade to be readily changed”
- 5. Dombroski:** US 3809137 -- 1974 – This invention “combines pencil sharpeners with “other objects such as rulers and various other tools”
- 6. Mobius:** US 3827469 - 1974 -The object of this invention is only to “reduce pencil breakage using an elastically deformable “pencil hole”.
- 7. Buc:** US-3889730 A 1975 This invention related only to a method that “different sizes of pencils to be sharpener”
- 8. Galli:** US 4081010 A this invention relate specifically to sharpening of “non-circular pencils.”
- 9. Mattheis:** US 4485862 A – In this invention, the inventor improved usefulness of the pencil sharpener by having it sharpen different sizes an shapes.

10. Kiyokane: D333839 A - This inventor designed a oval sharpener with "two vertical entrance holes of different sizes"
11. Luttgens: US 6279237 A This invention was a design that allowed for "blade fixing at both ends."
12. Fischer: US 2000/0044703 A1 "This invention was to sharpen

Therefore, the above references, relied upon by all parties, do not anticipate the use of P.E.T (Polyethylene Terephthalate) plastic recyclable bottles, because there were none to consider. It was not until years later that Coca Cola , embarked on an advertising campaign to put recyclable bottles into the hands of the public and years later that elementary school children started to use them. Further, students did not put supplies in them than, nor did students use them for desk side drinking water. These plastic bottles were not common or familiar to any one, especially students, as no one had yet conceived of the usefulness of them. Drinking water in bottles or soda, at the time of Kent 1962, nor any of the other references we have relied upon could not be consider at all as a marketable or even necessary before 1972.

And finely, not one reference even hints, suggests, or sees any value in using plastic recyclable bottles,because these plastic bottles were not known to be necessary to class room teachers, but now they use them every day to drink soda, or water from their own tap or school drinking fountains. To students these containers are free.

Further, manufactures previously containers specific only for use on their own product thus the thought of a universal thread that could fit used plastic soda bottles was not financially sound for their profit line. Thus they did not do it and no prior art considered the problem of storage of pencil shavings debris, because there was no containers that could fit a P.E.T (Polyethylene Terephthalate bottle) Also, not one of the above references considered or anticipates the need to find a better method of increasing storage of pencil shavings debris. Also, not one word is mentioned about the elementary school rooms and how a new and improved method of pencil shavings storage would help the class room teacher.

Kent pictured a drawing in Fig. 1 resembling a cap with threads, the cap having nothing to do with this applicant's invention as Kent's threaded closure was propitiatory. Up to Kent, all the prior references lacked any references that they should be modified in a manner required to meet the applicants claim that the invention is a method to increase pencil shavings capacity in mechanical hand held pencil sharpeners using recyclable soda containers. References 1-12 lack any suggestion that their invention should be modified in a manner required to meet the applicant's claim and boarder being extremely vague.

6. Unsuggested Modification: The prior art lacks any suggestion that

the reference should be modified in a manner required to meet the claims the applicant's invention solves. The applicant's invention solves a different problem than address by Kent and such different problem is recited in claim 5 (new) and it is patentable.

8. Unsuggested Combination: The prior art references do not contain any suggestion that they be combined or that they be combined in the manner and no need was considered to combine them. Those skilled in the art would find it physically impossible to combine the references in the manner suggested and if they could be combined, the references would produce an inoperative combination, because, P.E.T. (Polyethylene Terephthalate) bottles were not available until years after Kent's invention which was only for battery operated pencil sharpeners not mechanical

The novel physical features of the claim is unobvious and patentable under 103 since the combination of a bottle closure "cap" and pencil sharpener produced new and unexpected results over Kent, or any combination thereof. These new and unrepeated results are the ability of applicants system to store large amounts of pencil shavings in recyclable conventional plastic beverage containers which were not used until years after Kent. The applicants system is vastly superior to that of either Kent (3083691), Benczalski), Becker (2525854), Fugle (2557646), Kent (3083691), (Dombroski (3809137, Mobius (3827469, Buc (3889730, Galli (4081010, Mattheis (4485862, Kiyokane (D333839, Luttgens (6279237, Fischer (US2250044730 A!) (or any possible combination thereof. The novel features this applicants system which effect these differences are above and clearly stated in new claim 5 (new). 1

CONCLUSION:

For all the above reasons, the applicant submits that the specification and claims are now in proper form, and that the claims all define patentability over the prior art. Therefore, this applicant submits that this application is now in condition for allowance, which action applicant respectfully solicits.

Conditional Request for Constructive Assistance

The applicant has amended the specification and claims of this application so that they are proper, definite, and define novel structure which is also unobvious. If, for any reason this application is not believed to be in full condition for allowance, the applicant respectfully requests the constructive assistance and suggestions of the Examiner pursuant to M.P.E.P 2173.02 and 707.07(j) in order that the undersigned can place this application in allowable condition as soon as possible and without the need of further proceedings.

Very respectfully
Monte D. Mohr, Applicant

12/29/05

Enc: Drawings I, II (2) Replacement sheets Substitute specification –clear version “most recent (8) including claim 5 (new) and abstract copy” and Check for \$95.00 Publication fee adjustment (1)

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Certificate of Facsimile Transmission. I certify that on the date below I will fax this paper (including Appendix) to GAU 2872 of the U.S. Patent and Trademark Office at 703-872-9319

2006 Jan. 09


Monte D. Mohr, Applicant

DRAWINGS: The necessary replacement sheets I and II are enclosed. (Previously submitted, and fig. 2, 3, 4, 5, item "15" have been corrected to picture the bottle cap pencil sharpener in (open-position) using a parenthesis. In figure 2, 3, 4, and 5 item "7" on replacement sheet II has been corrected to picture the "reward edge" using a line that connects to the edge of the bottle-cap pencil sharpener, and touches the edge where the threads start. In figure "5", item "9" and its corresponding reference line have been deleted and appropriate changes have been made to the brief descriptions of the several views of the drawings for consistency. Two (2) replacement sheets are enclosed.



UTILITY PATENT APPLICATION
SPECIFICATION

T WHOM IT MAY CONCERN:

BE IT KNOWN THAT I, Monte D. Mohr, a citizen of the United States of America, have invented a new and useful combination pencil sharpener bottle cap for fitting on conventional plastic beverage containers.

Combination Pencil Sharpener Bottle Cap

Cross Reference to Related Applications

Current U.S. Class

83/453; 83/454; 83/124; 215/220; 215/217; 215/277; D19/73,75,85

International Class

B65D 055/02 B43L 23/02

Statement regarding Federally sponsored research or development: Not Applicable

Reference to a microfiche appendix: Not Applicable

BACKGROUND OF THE INVENTION

Field of the Invention

This invention relates to, office products, and more specifically, to a pencil sharpener bottle cap combination, for use in elementary school classrooms that fits onto any conventional plastic beverage container to facilitate a new, useful and readily available pencil shavings receptacle, that is easily manipulated by small hands, with large capacity for storage of pencil shavings, that both sharpens wood encased pencils and stores the pencil shavings, that is inexpensive to manufacture, recyclable and easily disposed of properly.

Description of the Prior Art

Manually operated pencil sharpeners have long been known. Electrically powered, either corded or cordless (battery powered) pencil sharpeners are now well known. Such pencil sharpeners have a shell or housing with a cavity in which a sharpening assembly is mounted. Many different sharpening assemblies are well known in the art and are applicable for sharpening common writing pencils, by cutting the wood to expose and sharpen the lead or graphite (collectively, "lead") encased therein. This normal sharpening process creates shavings and dust (collectively "shavings"), which are typically trapped within the housing, (housing may or may not have a shavings receptacle), and periodically discarded by the user when full.

In one prior art configuration illustrated in patent number 4,815,507, a removable faceplate is provided allowing access to shavings trapped in a receptacle or cavity located directly below the pencil entrance hole. In a sense, the cavity and lower faceplate cooperate to form a receptacle for the shavings. This configuration is most common in battery powered pencil sharpeners. In another prior art configuration described in patent number 370,940 a removable lower cup and/or drawer fits into the housing and/or cavity for catching or trapping the shavings. Yet another patent of interest, patent number 6,583,882, features a pivotal receptacle with an opening and closing position. The open position exposes the cavity during emptying of pencil shavings and the closed position secures the housing to avoid accidental spillage. Again, another patent of note, patent number 6,571,480, features no pencil shavings receptacle, cup or cavity at all.

Prominently, the pencil shavings must be discarded. The face plate, cup, drawer, etc. (collectively "receptacle") is removed from the pencil sharpener for this purpose. In a cup or drawer arrangement, spilling of shavings is likely when the cup or drawer is removed due to overfilling of the cup or drawer with shavings. Once removed from the pencil sharpener, the cup or drawer is unstable and

shavings are easily spilled. In flat plate arrangements, the shavings are particularly difficult to control and the spilling frequently occurs with any amount of shavings.

In some of these arrangements, the receptacle and housing are provided with retaining means that enable a snap engagement of the receptacle with the housing to positively position and retain the receptacle. However, such an arrangement causes sudden snap-disengagement of the receptacle from the housing and often results in spillage of the shavings. Typically, upon disengagement of the shavings receptacle, or during storage, the cup, or drawer (collectively "receptacle") is lost and the user, unable to locate the original receptacle, resorts to other makeshift means of shavings retention such as a small cardboard box particularly in motorized models or the use of one's own cupped hands to secure the shaving as they drop down or the user may simply stand over a nearby wastebasket and allow debris and pencil dust, (shavings) to freely fall into a waste container where ultimately, much of the pencil shavings miss the container and fall unto the floor.

Additionally, since there are numerous different pencil sharpener configurations encompassed by the crowded prior art, a user's unfamiliarity with a certain pencil sharpener contributes to the likelihood of spillage. Spilled shavings and lead ("graphite") cause stains that are difficult to clean, and therefore, require continual clean up as is so typical in elementary school classroom situations.

There has existed a long and unfulfilled need in this area of technology for an improved pencil sharpener configuration for dealing with debris ("shavings") generated by the public, and specifically students and their teachers in elementary school classrooms. Therefore, it is desirable to depart from conventional concepts and designs of prior art, and in so doing, provide an apparatus primarily developed for classroom use, easily manipulated by small hands, capable of facilitating an environmentally friendly pencil ("shavings") receptacle with increased storage capacity for pencil shavings, that is inexpensive to manufacture, recyclable, and easy to dispose of properly.

BRIEF SUMMARY OF THE INVENTION

The wood encased pencil is well known to be a necessary component of elementary school classroom education. All students, particularly grades K-6 not only use the pencil daily, but are required to keep it sharp and ready. Pencil supply and maintenance is a daily concern for teachers as major learning time is lost sharpening them, cleaning up debris that fall unto floors and inside desks. As a result, many teachers ban the student use of pencil sharpeners altogether, and designate pencil sharpening and replenishment of supply (freshly sharpened pencils) to a few trusted students or parents who will donate early morning or after school time to sharpen and replace pencil inventory for the next day.

Therefore, in view of the foregoing disadvantages inherent in the various designs and configurations of pencil sharpeners now present in the known art, my invention provides a new "screw-threaded cap" configuration as an integral part of the pencil sharpener housing and mechanism. This new construction is particularly useful for the sharpening of wood encased pencils, because it provides a pencil sharpener housing configuration that can be threadably attached to any conventional plastic beverage container creating a new and useful pencil sharpener shavings receptacle from any conventional plastic beverage container, with increased storage capacity for shavings, that is easily manipulated by small hands, inexpensive to manufacture, recyclable, environmentally friendly and easily disposed of properly.

The combination pencil sharpener bottle cap is threadably engaged by hand unto the neck of said conventional plastic beverage container, creating an air tight seal whereby insuring that pencil shavings will not leak or drop unto a floor or desk by gravity, and as the pencil shavings drop down and collect in the plastic receptacle (conventional plastic beverage container) a new and useful storage device for pencil shavings is formed, formally not present in prior art pencil sharpeners, rendering this configuration particularly useful in elementary school classrooms where large volumes of wood encased pencils are sharpened daily.

Additionally, as pencils having accumulated within the plastic beverage container, the user can easily observe capacity due to the transparent nature of the plastic materials so commonly used in the manufacture of said containers, enabling accurate visual determination if pencil shavings accumulated in, further reducing the possibility of spilling from over filling as is common in prior art pencil sharpeners until remitted.

In addition, a screw-threaded cap and pencil sharpener combination for fitting on conventional plastic beverage containers is particularly useful for children in elementary school classrooms where the use of empty plastic beverage containers (plastic soda bottles) is already common practice for storage of various school supplies, and yet more common to students and their teachers as an accepted means for storage of "desk-side" drinking water. Thus, a combination pencil sharpener bottle cap that threadably fits onto a conventional plastic beverage container, a container already common to students and readily available in abundance, will create a new and useful classroom product, that sharpens wood encased pencils and also provides a storage receptacle for pencil shavings, previously not available in prior art pencil sharpeners, that is easy for little hands to manipulate, that nearly eliminates all accidental spillage of pencil shavings unto carpets, into desks or over classroom activity tables, that is recyclable, inexpensive to manufacture, simple to use, friendly to the environment and easily disposed of properly.

In an office setting as in the classroom, this preferred embodiment, the combination pencil sharpener and screw-threaded cap configuration, greatly enhances stability and control, for office workers, during normal use while the pencil sharpener is upright on a desk, table, or in the users hand. In the open position, (plastic beverage container has been removed to empty shavings), the housing being integrally attached, becomes a spout and serves as a temporary receptacle for residual shavings (shavings that may have become lodged inside the cutting area of the sharpener housing) facilitating efficient disposal of residual shavings, pencil lead dust ("graphite") debris, minimizing need for clean up of surrounding floors and carpets as is so common with prior art pencil sharpeners earlier mentioned.

Therefore, there has thus been outlined, rather broadly, the more important features of the invention in order that the detailed description, thereof, that follows may be readily understood, and in order that the present contributions to the art may be better appreciated. There are, of course, additional features of the invention that will be described hereinafter and which will form the subject matter of the claims appended hereto. As such, the general purpose of the present invention, which will be described subsequently in detail later, is to provide a pencil sharpener capable of threadably attaching unto any conventional plastic beverage container to create a new and useful office or school classroom product with increased storage capacity for pencil shavings, particularly helpful to elementary school students and their teachers that is, inexpensive to manufacture, easily manipulated by small hands, recyclable, easily to dispose of properly, which maintains many advantages of the pencil sharpeners mentioned herein, and many novel features, that result from a combination pencil sharpener bottle cap, not anticipated, rendered obvious, suggested, or even implied by prior art in the field of pencil sharpeners, either alone or in any combination thereof.

BRIEF DESCRIPTION OF SEVERAL VIEWS OF THE DRAWING

Figure 1. Is a perspective view of the combined pencil sharpener bottle cap configuration with integral threaded cap for fitting on plastic beverage containers in the closed position (screw-threaded cap threadably attached to plastic beverage container creating a tight seal) showing my invention. The broken lines, being for illustrative purposes only and forming no part of the claimed invention; and,

Figure 2. Is a perspective view of the combined pencil sharpener bottle cap configuration with integral threaded cap for fitting on plastic beverage container in open position (screw-threaded cap disengaged from plastic beverage container) showing my invention. The broken lines, being for illustrative purposes only and forming no part of the claimed invention; and,

Figure 3. Is a perspective view of the combined pencil sharpener bottle cap configuration with integral threaded cap of Fig. 1 threading onto plastic beverage container in open position, (plastic beverage container disengaged from threaded cap) showing my invention; and,

Figure 4 is a side elevational view of the combined pencil sharpener/bottle cap combination, in pen position, for fitting on empty conventional plastic beverage container of figure 1; and,

Figure 5 is a bottom view of the combined pencil sharpener/bottle cap combination, in pen position, for fitting on empty conventional plastic beverage container of figure 1.

DETAILED DESCRIPTION OF THE INVENTION

Although one preferred embodiment of the invention is explained in detail, it should be understood that the invention is not limited in its scope to the details of construction and the arrangement of components or illustrations set forth in the following description or illustrated in the drawings. The invention is capable of other embodiments and of being used in various ways. Also, in describing the preferred embodiment, specific terminology is used for the sake of clarity and it should be understood that each specific term used includes any technical equivalents, which may operate in a similar manner to accomplish the same or similar purpose.

In the past, pencil sharpeners have had various receptacles for shavings retention that were primarily unique to that specific pencil sharpener, yet subject to removal from its own housing to empty pencil shavings. Other prior art configurations utilized integral receptacles that either remained attached by some type of snap-on device, or were hingedly attached to the housing during normal sharpening operation and emptying. Still other prior art utilized a drawer receptacle that moved freely with friction as its only restraint from falling out, while others had top pencil entrance holes and could threadably attach unto a barrel or cylindrical shaped storage receptacle. Such configurations were and are still inherently unstable, (especially when operated by elementary school children) thus prone to spillage of shavings, unfriendly to the environment, have minimal storage capacity, not recyclable or easy to dispose of properly, manufactured to fit one receptacle size, therefore, worthless when receptacle is misplaced or lost.

Therefore, referring now more specifically to Fig. 1, on page I of the drawings, my present invention provides a screw-threaded cap 6 configuration that is permanently attached to the pencil sharpener housing 1 during normal sharpening operation and while emptying of shavings from the pencil sharpener. In use, the screw-threaded cap 6 is threadably engaged to a conventional plastic beverage container 12 in a well-understood manner. The empty plastic beverage container 12 is hand secured into the screw-threaded cap 6-pencil sharpener bottle cap combination creating a new and useful shavings receptacle 8 from said conventional beverage container 12 with a large capacity for storage of pencil shavings. The plastic beverage container 12, when full to capacity, can be easily removed by hand, screwing it off the screw threaded cap 6 and then discarded or reused by threading it back unto the screw threaded cap 6 integrally attached to the housing 1 of the pencil sharpener.

With the screw threaded cap 6 configuration integrally attached to the pencil sharpener housing 1, an air tight seal is created between the housing 1 and plastic beverage container 12, at the screw-threaded neck 13, creating stability in handling, and a spillage free shavings/storage receptacle 8 that is reusable, with a large storage capacity, formally not available in prior art pencil sharpeners.

Referring to the description of drawings in fig. 1,2,4,5, a housing 1 is shown having a pair of side walls 2 spaced from one another, an open end 3 defined between said pair of sidewalls 2, and a bottom wall 4 extending between said pair of spaced sidewalls 2, and adjacent to said open end 3, each pair of said spaced sidewalls 2 having an elongated groove 5 adjacent to said open end 3; extending up to and adjacent to bottom wall 4 and, an integrally attached screw-threaded cap 6 adjacent to said pair of sidewalls 2, integrally attached to the housing 1 at the open end 3, and defining the rearward edge 10 of the embodiment, positioned to abut said rearward edge 7 of said screw-threaded cap 6 to said plastic beverage container 12 effecting a tight seal at threaded neck 13 of plastic beverage container 12, in the closed position 11; and,

Referring to fig. 2, of the description of drawings, a screw-threaded cap 6 is shown with integrally attached handle 14 in pen position 15 at rearward edge 7 of screw-threaded cap 6 having a pair of side

walls 2 spaced from one another, an open end 3 defined between said pair of sidewalls 2 and a bottom wall 4 extending between said pair of spaced sidewalls 2, and adjacent to said open end 3 each of said pair of spaced sidewalls 2 having an elongated groove 5 adjacent to said open end 3; extending up to and adjacent to bottom wall 4; and,

an integrally attached screw-threaded cap 6 adjacent to said pair of side walls 2, integrally attached to the housing 1 at the open end 3, and defining a rearward edge 10 of the embodiment, positioned to abut said rearward edge 7 of said screw-threaded cap 6 to said plastic beverage container 12 effecting a tight seal at threaded neck 13 of plastic beverage container 12 in the closed position 11 wherein said housing 1 defines a pencil-receiving opening 9 and said office product further comprising a sharpening assembly 16 mounted within said housing 1 and positioned to sharpen a pencil (14) inserted into said pencil-receiving opening 9.

Referring to fig. 5 of description of drawings on page II, a bottom view of the screw-threaded cap 6 is shown with integrally attached pencil sharpener housing 1, in open position (15), having a pair of side walls 2 spaced from one another, an open end 3 defined between said pair of sidewalls 2, and a bottom wall 4 extending between said pair of spaced sidewalls 2 and adjacent to said open end 3 each of said pair of spaced sidewalls 2 having an elongated groove 5 adjacent to said open end 3 extending up to and adjacent to bottom wall 4; and, said integrally attached screw-threaded cap 6 adjacent to said pair of side walls 2 integrally attached to the housing 1 at open end 3 defining a rearward edge 10 of the embodiment, positioned to abut said rearward edge 7 of said screw-threaded cap 6 to said plastic beverage container 12 effecting a tight seal at threaded neck 13 of plastic beverage container 12 in closed position 11 as shown on page I of the drawings; wherein said housing 1 defines a pencil-receiving opening 9 and said screw-threaded cap 6 further comprising a sharpening assembly 16 mounted unto said integrally attached housing 1 positioned to sharpen a pencil 14 inserted into said pencil-receiving opening 9.

Having thus described in particular certain embodiments of my invention, various alterations, modifications, and improvements will readily occur to those skilled in the art. For example, it should be understood that the pencil sharpener housing with screw-threaded cap might be used as a cap to seal empty plastic beverage containers of differing sizes and shapes used to store supplies in an office setting other than just to be used for pencil sharpening. In elementary school classrooms, for example, the screw-threaded cap may be used to seal plastic containers of various sizes and shapes for storage of pencils, ballpoint pens, erasers, paperclips, crayons, felt tip pens, and over-head projector dry-erase writing devices.

Additionally, the screw-threaded cap may have various configurations. For example, two entrance holes positioned atop and adjacent to each other could be a valuable addition. Also, the screw threaded cap interface may have top or side entrance holes for pencils of various uses. The entrance holes may be configured with different diameters to accommodate various applications. For example, large diameter for beginner's (thick) writing pencils, commonly used by kindergarten children in the classroom, require large entrance holes. Similarly, cosmetic-make-up pencils, and eyebrow-markers, require various entrance hole sizes to accommodate the thinner leads and circumferences of this style of pencil. In addition, carpenters commonly utilize a line marking pencil that is more rectangular with rounded edges, more flat than circular, a shape requiring a custom entrance hole configuration.

It should also be appreciated that the pencil sharpener housing may be secured to the cap by various means. One possible consideration might be an inner cap member connection concentrically received within the outer cap member, with inner cap having a top wall and a cylindrical side wall secured by the internal threads to threadably couple the inner cap to the threaded neck of the plastic beverage container. Another possible configuration would be a two-piece arrangement with cap and coupling ring secured by a tab to hand snap into place creating a one-piece embodiment. Another possible modification to consider would be an exchangeable threadably attached plastic inner plug that can be screw threaded unto the inner threaded neck of the embodiment for quick removal and replacement of said combination pencil sharpener bottle cap. A removable entrance hole insert of some type capable of varying plug-in sizes for writing devices such as wood-encased pencils, crayons and chalk could also be a possible useful modification.

A one-piece cast or molded arrangement (preferred embodiment), or an adhesively secured cap and housing using various bonding agents, as epoxy, or polymer mixtures, enabling a permanent bond securing screw-threaded-cap to the pencil sharpener-housing are all possible alternatives. Neck tabs might also be added as a convenience feature minimizing possible separation of cap and housing from the plastic beverage container while emptying pencil shavings.

Such alterations, modifications and improvements as are made obvious in this disclosure are intended to be part of this description though not expressly stated herein, and are intended to be within the spirit and scope the invention.